

## REMARKS

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

## PENDING CLAIMS

Claims 1 and 3-5 were pending, under consideration and subjected to examination in the Office Action. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is presently interested. At entry of this paper, Claims 1, 3-5 and 14-24 will be pending for further consideration and examination in the application.

## 112, 1<sup>ST</sup> PARAGRAPH REJECTION - OBSOLETE VIA AMENDMENT

Claims 1 and 3-5 have been rejected, under 35 USC '112, first paragraph, for the concerns listed within the "112" section on page 2 of the Office Action. Traversal is appropriate, because the "three-dimensional" feature/limitations was adequately supported by Applicant's original disclosure (e.g., see Abstract). **Despite such traversal, such rejection has been rendered obsolete by the present clarifying amendments to Applicant's specification/claims.** Based upon the foregoing, reconsideration and withdrawal of the above-referenced rejection are respectfully requested.

### REJECTION UNDER 35 USC '103

The 35 USC '103 rejection of claims 1 and 3-5 as being unpatentable over Sanjay-Gopal et al. (U.S. Patent 6,187,018) in view of Vicci et al. (U.S. Patent 7,305,319); and the rejection of claims 1 and 5 as being unpatentable over Cosman (U.S. Patent 6,405,072) in view of Vicci et al. (U.S. Patent 7,305,319) is respectfully traversed. However, such rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following remarks supplied from Applicant's foreign representative.

One distinctive feature of Applicant's present invention lies in 2-axial position control of the surgical operation tool, such as, a hand drill 3, for example.

Thus, according to Applicant's present invention, as is apparent from **Sketches A to D** attached herewith, the surgical operation tool can be located at an appropriate position within a surgical field on a patient, with an appropriate posture, correctly (i.e., not only the position, but also the direction of the tool to be inserted into the patient may be guided).

In **Sketch A**, a tip of the hand drill 3 is positioned at a crossing point of the two (2) laser beams with each beam being oscillated. Then, as is shown in **Sketch B**, the position of the tool is adjusted so that one of the two (2) laser beam irradiate thereupon comes aligned with one of two (2) lines 41 and 41, on the surface of the sleeve 40 (1-axial position control). That is, a laser line impinging on a lined-sleeve may be used (e.g., by a surgeon) to align the tool along a first guiding axis (e.g., by adjusting an attitude of the tool until the laser line is parallel with one of the lines on the lined-sleeve).

Then, as is shown in **Sketch C**, the hand drill may be turned upward or changed in posture or an inclination in the direction, as is shown by an arrow, in an upward direction. That is, another laser line from the other laser and impinging on a lined-sleeve may be used (e.g., by a surgeon) to align the tool along a second guiding axis (e.g., by adjusting an attitude of the tool until the other laser line is parallel with one of the lines on the lined-sleeve). Thus, with this, the tool becomes guided into alignment along a line shown by broken line in the figure (i.e., the line-like crossing section between the two (2) laser beams).

And, finally, the posture of an inclination of the tool is continued to be adjusted, until when, not only one (1) laser beam, but also other laser beam are aligned with (e.g., parallel to) the two (2) lines 41 and 41 on the surface of the sleeve 40 (2-axial position control). This condition enlarged is shown in **Sketch D**. In this regard, please see the description starting from the last line on page 14 to third line on page 16 of the spec.

Namely, according to Applicant's present invention, i.e., the position measuring apparatus for surgery, it is possible to position the operation tool,

correctly, in the surgical field of the patient, with an aid of such 2-axial position control, mentioned above.

Independent claims 15 and 20 are derived from independent claims 1, but recite Applicant's invention using differing phraseology, e.g., uses "setting position and setting orientation" instead of "setting position and setting direction". Added dependent claims 16-18 and 21-23 parallel dependent claims 3-5, respectively. Added dependent claims 14, 19 and 24 recite (using claim 19 as an example) "wherein said surgical tool including plural line indicia serving as reference lines for parallelly-aligning scanning lines of said laser beams impinging onto said surgical tool, as a guide to effect said setting orientation of said surgical tool." Support for claims 14, 19 and 24 may be found, for example, in paragraph(s) [0053] of this application's publication document.

Turning to rebuttal of the previously-applied art, on the contrary, Sanjay-Gopal et al., though disclosing the laser irradiating means for irradiating laser beams on the surgical field, such reference fails to show Applicant's 2-axial position control (or 2-axial orientation guiding) according to Applicant's present invention, as explained in the above. That is, at minimum, Sanjay-Gopal et al. would not have suggested Applicant's "wherein said setting direction for said surgical tool is given in a form of an intersection line". More particularly, Sanjay-Gopal et al.'s lasers are not used for guiding a direction or orientation of a tool, but instead, are used to define a field of view (FOV) where an image is captured. Regarding the tool, a positioning or orientation thereof appears to be wholly user-decided and Sanjay-Gopal et al.'s arrangement merely tracks the surgical tool so that a graphic representation of the

surgical tool is mapped to image space where it is visualized along with the image representation of the subject via the video monitors 50.

Regarding the other primary reference, Cosman is likewise deficient. That is, Cosman appears not to be concerned with direction or orientation of tools, but instead, is directed to aligning beams onto a target, such as from a linear accelerator (LINAC) X-ray treatment machine. An electronic search for “tool” and “instrument” within Cosman’s electronic text, turned up no hits.

Finally, Vicci et al. does not cure the deficiency mentioned above with respect to the primary references. In short, no other previously-applied reference cures the major deficiencies mentioned above with respect to the above-discussed reference(s). Given that the previously-applied references are mutually deficient in at least one regard, it is respectfully submitted that the previously-applied references (whether taken individually, or in combination) would not have disclosed or suggested Applicant’s claimed invention.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a ‘103 obviousness-type rejection of Applicant’s claims. Accordingly, reconsideration and withdrawal of such ‘103 rejection, and express written allowance of all of the ‘103 rejected claims, are respectfully requested.

#### **EXAMINER INVITED TO TELEPHONE**

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any

Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

### **RESERVATION OF RIGHTS**

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR '1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-

2135 (Case No. 520.43276X00) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

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